

Appln. No. 09/755,752
Amdt. dated: May 6, 2005
Reply to Office Action dated Feb. 7, 2005

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently amended) In a wireless cellular communication system comprising a cellular base station and at least one repeater communicating with said cellular base station over a wireless backhaul link for communicating with a plurality of mobile subscribers, a method for improved backhaul efficiency, comprising the steps of:
dynamically assigning for said backhaul link at least one packet channel for transmission of selected packets containing traffic data on a backhaul signal for a subscriber, said at least one packet channel comprising at least an RF frequency and a channel definition; ~~and~~
transmitting said selected packets on said at least one packet channel between said at least one repeater and said cellular base station; and
dynamically reassigning at least a portion of said assigned packet channel for transmission of a second backhaul signal.
2. (Original) The method according to claim 1, further comprising the step of performing said assigning step in response to a request for communicating over said backhaul signal for one of said plurality of mobile subscribers.
3. (Original) The method according to claim 2, wherein said request include a priority field.
4. (Original) The method according to claim 3, further comprising a comparing step wherein said data priority fields are compared to determine whether to terminate transmission of a lower priority transmission to allow transmission of a higher priority transmission.
5. (Canceled)

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6. (Previously presented) The method according to claim 1, wherein said channel definition includes a set of parameters which define said packet channel, said parameters comprising at least one of:

- a. a number of said selected packets which can be sent over said assigned packet channel; and
- b. a number of frames allocated for transmission of said selected packets.

7. (Original) The method according to claim 6, wherein said channel definition further includes an identified time for transmission of said selected packets.

8. (Previously presented) The method according to claim 6, wherein said backhaul signal comprises at least one data type selected from the group consisting of user traffic and control data.

9. (Original) The method according to claim 8 wherein said user traffic is comprised of voice traffic.

10. (Original) The method according to claim 1, wherein said packets are transmitted over said backhaul link using a higher order modulation as compared to a ground link between said at least one repeater and said subscriber.

11. (Currently amended) ~~The method according to claim 1, further~~ In a wireless cellular communication system comprising a cellular base station and at least one repeater communicating with said cellular base station over a wireless backhaul link for communicating with a plurality of mobile subscribers, a method for improved backhaul efficiency, comprising the steps of:

dynamically assigning for said backhaul link at least one packet channel for transmission of selected packets containing traffic data on a backhaul signal for a subscriber, said at least one packet channel comprising at least an RF frequency and a channel definition;

transmitting said selected packets on said at least one packet channel between said at least one repeater and said cellular base station; and

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converting between a packet based backhaul signal and a non-packet based ground link signal.

12. (Currently amended) ~~The method according to claim 1,~~ In a wireless cellular communication system comprising a cellular base station and at least one repeater communicating with said cellular base station over a wireless backhaul link for communicating with a plurality of mobile subscribers, a method for improved backhaul efficiency, comprising the steps of:

dynamically assigning for said backhaul link at least one packet channel for transmission of selected packets containing traffic data on a backhaul signal for a subscriber, said at least one packet channel comprising at least an RF frequency and a channel definition; and

transmitting said selected packets on said at least one packet channel between said at least one repeater and said cellular base station;

wherein said at least one repeater comprises a plurality of repeaters, wherein one of said at least one packet channel is used to transmit packets between multiple repeaters selected from said plurality of repeaters and said cellular base station.

13. (Currently amended) In a wireless cellular communication system comprising a cellular base station and a repeater communicating with said cellular base station over a wireless backhaul link for communicating with a plurality of mobile subscribers, a system for improved backhaul efficiency, comprising:

a structure for dynamically assigning for said backhaul link at least one packet channel for transmission of selected packets containing traffic data on a backhaul signal for a subscriber, said at least one packet channel comprising at least an RF frequency and a channel definition; and

structure for transmitting said selected packets on said at least one packet channel between said repeater and said cellular base station; and

structure for dynamically reassigning at least a portion of said assigned packet channel for transmission of a second backhaul signal.

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14. (Previously presented) The system according to claim 13, further comprising a structure for performing said assigning step in response to a request for communicating over said backhaul signal for one of said plurality of mobile subscribers.

15. (Original) The system according to claim 14, wherein said request include a data priority field.

16. (Original) The system according to claim 15, further comprising a structure for comparing wherein said data priority fields are compared to determine whether to terminate transmission of a lower priority transmission to allow transmission of a higher priority transmission.

17. (Canceled)

18. (Previously presented) The system according to claim 13, wherein said channel definition includes a set of parameters which define said packet channel, said parameters comprising at least one of:

- a. a number of said selected packets which can be sent over said assigned packet channel; and
- b. a number of frames allocated for transmission of said selected packets.

19. (Original) The system according to claim 18, wherein said channel definition further includes an identified time for transmission of said selected packets.

20. (Previously presented) The system according to claim 18, wherein said backhaul signal comprises at least one data type selected from the group consisting of user traffic and control data.

21. (Original) The system according to claim 20, wherein said user traffic is comprised of voice traffic.

22. (Original) The system according to claim 13, further comprising a structure for transmitting said packets over said backhaul link using a higher order modulation as

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compared to a ground link signal between said at least one repeater and said subscriber.

23. (Currently amended) ~~The system according to claim 13, further~~ In a wireless cellular communication system comprising a cellular base station and a repeater communicating with said cellular base station over a wireless backhaul link for communicating with a plurality of mobile subscribers, a system for improved backhaul efficiency, comprising:

a structure for dynamically assigning for said backhaul link at least one packet channel for transmission of selected packets containing traffic data on a backhaul signal for a subscriber, said at least one packet channel comprising at least an RF frequency and a channel definition;

a structure for transmitting said selected packets on said at least one packet channel between said repeater and said cellular base station; and

a structure for converting between a packet based backhaul signal and a non-packet based ground link signal.

24. (Currently amended) ~~The system according to claim 13, In a wireless cellular communication system comprising a cellular base station and a repeater communicating with said cellular base station over a wireless backhaul link for communicating with a plurality of mobile subscribers, a system for improved backhaul efficiency, comprising:~~

a structure for dynamically assigning for said backhaul link at least one packet channel for transmission of selected packets containing traffic data on a backhaul signal for a subscriber, said at least one packet channel comprising at least an RF frequency and a channel definition; and

a structure for transmitting said selected packets on said at least one packet channel between said repeater and said cellular base station;

wherein said at least one repeater comprises a plurality of repeaters, wherein said structure for transmitting said selected packets on one of said at least one packet

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channel is used to support communications between multiple repeaters selected from said plurality of repeaters and said cellular base station.

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